

# Mineral Industry Surveys

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## VANADIUM IN NOVEMBER 2002

Domestic consumption of vanadium in November 2002 was about 8% less than that of the previous month and was about 4% less than that of November 2001, according to the U.S. Geological Survey. Stocks of vanadium, in all forms, were 264 metric tons at the beginning of 2002, and 216 metric tons at the end of November.

According to Ryan's Notes (2002b), the range for U.S. ferrovanadium prices during November was \$4.050 to \$4.400 per pound of vanadium content, compared with \$4.472 to \$4.694 in October. European ferrovanadium ranged from \$6.725 to \$7.075 per kilogram of vanadium content in November as compared to \$6.933 to \$7.344 in October. In November, vanadium pentoxide prices ranged from \$1.60 to \$1.70 per pound, representing no change from October.

In late November, the U.S. Department of Commerce announced final antidumping duty margins on imports of ferrovanadium from South Africa and China (Ryan's Notes, 2002a). Margins of 116% were set for Xstrata Plc. and Highveld Steel and Vanadium Corp., Ltd. and other South African producers, and margins of 13.03% were set for

Panzhihua Iron & Steel and 66.71% for other Chinese producers. The U.S. Department of Commerce had assessed preliminary antidumping duties of 19.42% for Xstrata, 45.58% for Highveld Steel and Vanadium, and 33.39% for all other South African producers. However, in the summer of 2002, Xstrata and Highveld refused to allow the U.S. Commerce Department to conduct on-site verification of information provided during the preliminary investigation of ferrovanadium dumping in the United States by the South African companies. Xstrata explained that it preferred to concentrate its efforts on proving before the International Trade Commission (ITC) that no injury had occurred because of the imports. If the ITC rules that the United States industry has not been materially injured, the final duties imposed by Commerce would be revoked.

### References Cited

Ryan's Notes, 2002a, Final FeV duties of 116% on South Africa: Ryan's Notes, v. 8, no. 47, November 25, p. 1.  
Ryan's Notes, 2002b, [untitled]: Ryan's Notes, v. 8, no. 48, December 2, p. 4.

TABLE 1  
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM 1/

(Kilograms, contained vanadium)

	2001 p/		2002			
			October		November	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovanadium 2/	2,800,000	245,000	238,000	255,000	217,000	195,000
Vanadium-aluminum alloy	W	10,500	W	W	W	W
Other 3/	484,000	7,910	23,400	20,400	21,900	20,400
Total	3,280,000	264,000	261,000	275,000	239,000	216,000

p/ Preliminary. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2  
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	2001 p/	2002		
		October	November	Year to date
Steel:				
Carbon	997,000	74,600	70,000	806,000
High-strength low-alloy	769,000	W	W	W
Stainless and heat-resisting	26,300	W	W	W
Full alloy	701,000	67,500	54,500	694,000
Tool	261,000	20,600	22,700	246,000
Total steel	2,750,000	234,000	214,000	2,530,000
Superalloys	16,000	902	940	12,400
Miscellaneous and unspecified 2/	514,000	26,700	24,100	357,000
Total consumption	3,280,000	261,000	239,000	2,900,000

p/ Preliminary. W Withheld to avoid disclosing company proprietary data; included with "Total steel."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3  
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM  
METAL, INCLUDING WASTE AND SCRAP 1/

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2001	10,100	\$45,100	50,000	\$639,000
2002:				
August	--	--	4,350	259,000
September	--	--	3,610	269,000
October:				
Germany	--	--	237	118,000
Russia	--	--	1,030	63,800
Total	--	--	1,260	182,000
Year to date	78,400	170,000	31,000	1,220,000
Exports:				
2001	363,000	6,990,000	26,300	380,000
2002:				
August	44,500	825,000	1,170	12,100
September	31,800	685,000	28,200	298,000
October:				
Canada	18,700	297,000	--	--
Germany	--	--	1,930	21,400
Hong Kong	6,870	124,000	--	--
Israel	1,200	35,200	--	--
Japan	38,000	831,000	--	--
Korea, Republic of	659	19,400	--	--
Norway	4,230	54,900	--	--
Singapore	2,360	62,100	--	--
Taiwan	280	5,320	--	--
United Kingdom	--	--	11	22,000
Total	72,200	1,430,000	1,940	43,300
Year to date	463,000	10,100,000	45,800	874,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND  
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2001	2,550,000	\$20,500,000	600,000	\$3,460,000	1,080,000	\$510,000
2002:						
August	337,000	2,800,000	10,300	48,100	4,690	79,400
September	225,000	2,010,000	42,400	336,000	2	2,510
October:						
Canada	63,400	575,000	--	--	--	--
Czech Republic	108,000	829,000	--	--	--	--
Italy	--	--	--	--	1	3,560
South Africa	--	--	29,300	238,000	--	--
Total	203,000	1,670,000	29,300	238,000	1	3,560
Year to date	2,260,000	17,000,000	334,000	1,820,000	42,300	548,000

See footnotes at end of table.

TABLE 4--Continued  
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND  
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Exports:						
2001	70,000	\$768,000	71,400	\$407,000	63,000	\$562,000
2002:						
August	19,200	206,000	11,300	52,300	4,660	47,900
September	8,850	121,000	2,030	27,700	4,920	47,000
October:						
Canada	273	4,720	--	--	17,500	163,000
India	--	--	--	--	1,370	21,200
Korea, Republic of	--	--	6,070	57,600	--	--
Mexico	10,900	137,000	992	10,600	--	--
Total	11,200	142,000	7,060	68,200	18,900	185,000
Year to date	127,000	1,400,000	52,000	337,000	167,000	1,290,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG 1/

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2001	1,980,000	\$2,270,000	1,980,000	\$1,290,000	998,000	\$1,170,000
2002:						
August	--	--	200,000	172,000	--	--
September	--	--	125,000	148,000	--	--
October:						
Canada	--	--	89,600	99,100	--	--
Mexico	--	--	150,000	41,600	--	--
Total	--	--	240,000	141,000	--	--
Year to date	--	--	2,040,000	1,260,000	--	--

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS 1/

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2001	--	--	102,000	\$623,000
2002:				
August	--	--	6,440	64,400
September	68	\$6,030	223	9,260
October:				
Germany	--	--	186	11,400
South Africa	--	--	6,240	52,900
Total	--	--	6,430	64,300
Year to date	14,100	390,000	41,600	492,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.